Direct Drive Robot Unpacking and Installation Guide

This guide describes how to unpack and install the Direct Drive Robot.

Shipping containers

The Direct Drive Robot ships in the following containers:

- ***Direct Drive Robot crate***. Contains the Direct Drive Robot and the utility kit.
- ***Power supply box***. Contains the robot power supply.

Before you start

Verify the following:

1 ***Site specifications.*** Make sure the installation site meets the requirements specified in the *Direct Drive Robot Site Preparation and Safety Guide*.

2 ***Personnel requirements.*** Make sure two people are available to lift and move the robot from the crate.

WARNING **The Direct Drive Robot weighs 31.1 kg (68.5 lb). Do not attempt to move the robot without assistance. Use proper lifting techniques when lifting the robot.**

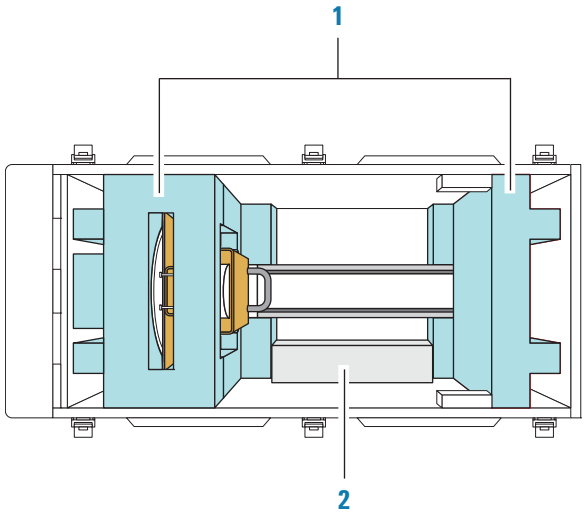
Unpacking the crate

IMPORTANT Save the packaging materials in case you need to move or ship the Direct Drive Robot.

To unpack the Direct Drive Robot crate:

1 Open the latches and remove the top of the crate.

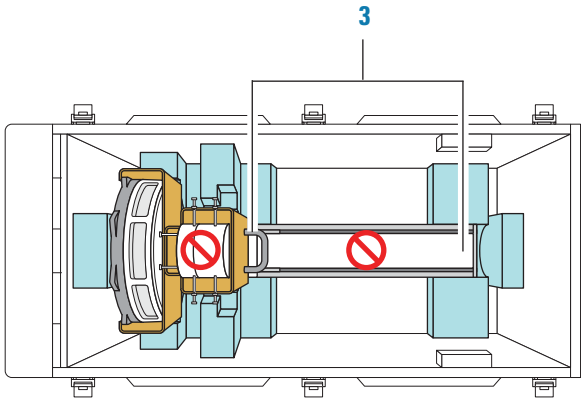
2 Remove the two foam blocks on top of the robot (1). Remove the cardboard box (2).



3 With one person holding the handle on the shipping brace and another person supporting the robot under the mast, carefully lift the robot out of the crate (3).

CAUTION Never lift the robot from its arm.

CAUTION Do not press down on the plate on the front of the mast.



4 Remove the robot from the plastic wrap and place the robot on a flat, stable surface where it will be possible for you to access all sides of the robot.

Inspecting the contents

IMPORTANT Inspect all items for completeness and potential shipping damage. If an item is defective on arrival, contact the Automation Solutions Business Center at 1.800.227.9770 as soon as possible.

After you unpack the robot crate, cardboard box, and power supply box, make sure you have the following:

Part name	Part number
Direct Drive Robot:	
Cable connection on the side, or	23083-211
Cable connection on the bottom	23083-212
Power supply:	
Fuses on the back side, or	G5411-60010
Fuses inside	G5411-60005
2-mm hex wrench	G5550-04237
4-mm hex wrench	G5550-04234
5-mm hex wrench	G5550-01523

G5430-90002, Rev 01
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Original Instructions

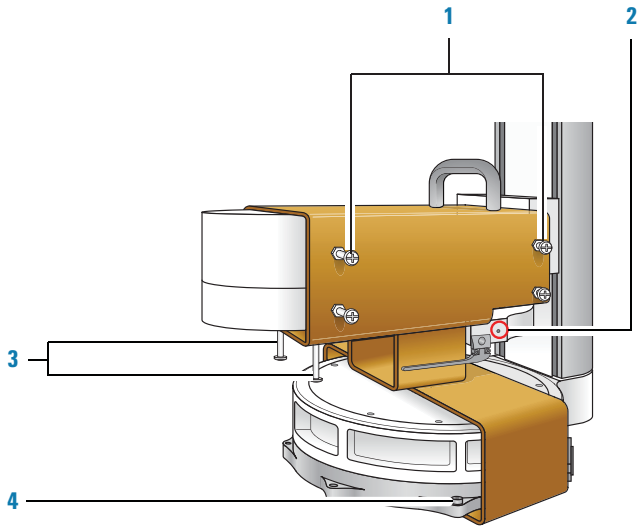
Agilent Technologies

Part name	Part number
M6 mounting bolts (8)	G5550-02705
Power supply mounting:	
Pan-head Phillips machine screws (4)	G5550-09078
M05 split lock washer (4)	G5550-02453
M05 flat washer (4)	G5550-02439
Teaching jig	G5550-23357
Regrip station assembly:	
Regrip station	G5550-20020
M6 mounting screw	G5550-02697
Gripper pad replacement parts:	
Gripper pads (2)	G5550-23287
Cap screws (6)	5023-1658
Star-head wrench	5023-1659
Threadlocking solution	5188-8370
Power cable	Request by country
Robot cable	G5550-23704
Emergency stop pendant and cable	16971-001
Ethernet cable	G5550-09363
VWorks software CD: Benchtop license, or System license	 08330-402 08330-403
Direct Drive Robot Site Preparation and Safety Guide	G5430-90001

Removing the shipping brace

IMPORTANT Save the shipping brace and the screws in case you need to move or ship the robot.

To remove the shipping brace:



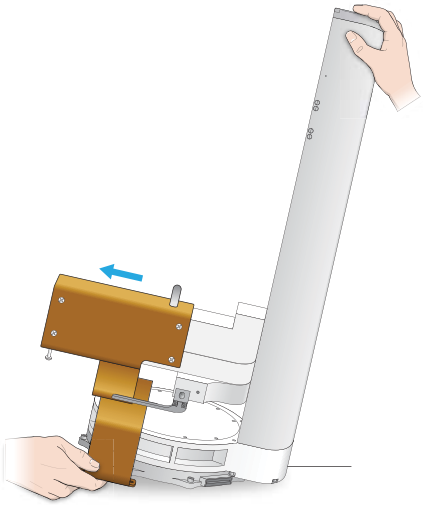
1 Loosen the four nylon screws on each side of the brace by hand.

2 Using the 2-mm hex wrench, turn the gripper lead screw to open the grippers as wide as possible.

3 Unscrew by hand and remove the two nylon screws below the robot arm.

4 Using the 5-mm hex wrench, unscrew and remove the four metal screws that are holding the shipping brace to the robot base.

5 Tilt the robot at a slight angle as shown.



6 While holding the brace by the handle, carefully slide the brace away from the robot.

Installing the robot

To attach the robot:

1 Position the robot on the attachment surface so that the base aligns over the mounting holes.

If the robot-cable connector is on the side of the base (robot 23083-211), make sure the connector is positioned such that the distance to the power supply will be minimal and that the robot cable will be clear of other devices on the attachment surface.

If the robot cable connector is on the bottom of the base (robot 23083-212), make sure the connector will be accessible from below the attachment surface.

2 Insert the M6 bolts in the eight mounting holes and use the supplied 5-mm wrench to tighten the bolts until snug.

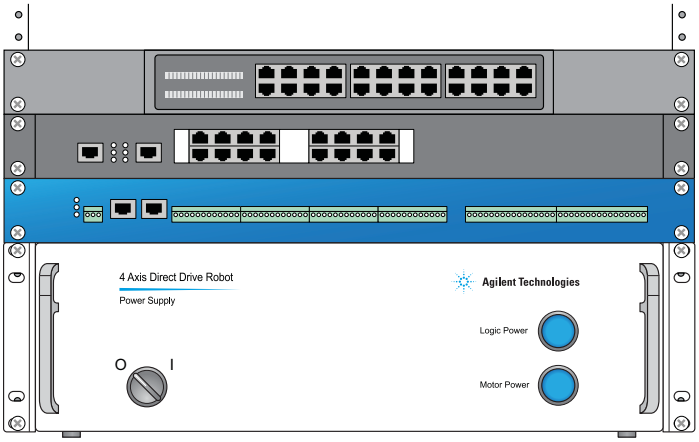
Note: For custom tables, longer bolts, nuts, and washers might be required.

To mount the power supply in a standard 19-inch rack:

1 Insert each pan-head screw through a split-lock washer first, and then through a flat washer.

2 Align two holes in each mounting bracket with two holes in the rack.

IMPORTANT Because of its weight, Agilent Technologies recommends that you mount the power supply at the bottom of the rack, as shown in the following example. Mounting the power supply on the bottom of the rack also facilitates service access.



3 Insert the screw-washer assembly into each hole and tighten using the screwdriver.

Alternatively, you can turn the power supply onto its left side and mount the power supply vertically. To mount the power supply vertically, you can remove the supplied mounting brackets and use your own mounting components. For vertical mounting specifications, see the *Direct Drive Robot Site Preparation and Safety Guide*.

To connect the robot:

Figure Power supply G5411-60010

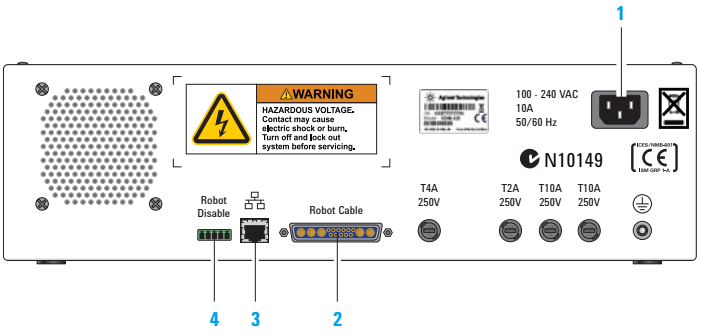
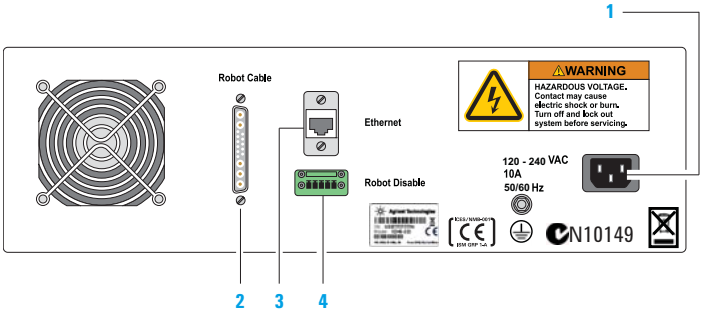


Figure Power supply G5411-60005



1 Use the supplied power cord to connect the robot power supply to the power source.

2 Use the supplied robot cable to connect the robot to the power supply. The connector on the robot is on the side of or below the robot base.

3 Use the supplied Ethernet cable to connect the robot power supply to the controlling computer. Connect the computer to the lab's wide area network.

4 Connect the free end of the emergency stop pendant cable to the **ROBOT DISABLE** connector on the robot power supply.

About setup

See the *Direct Drive Robot User Guide* for instructions.

About storage and transport

If you need to remove the robot from the attachment surface and package the robot for storage or transport, see the *Direct Drive Robot User Guide* for instructions.

Accessing product user documentation

Agilent Technologies product user documentation is available in the following locations:

- *Online help*. The product knowledge base is available from the Help menu within the automation software.
- *PDF files*. Product manuals are provided as PDF files on the automation software CD.
- *Agilent Technologies website*. You can search the product knowledge base or download the latest version of any PDF file from the Agilent Technologies website at www.agilent.com/lifesciences/automation.

Language in the EC Declaration of Incorporation

The EC Declaration of Incorporation (for partial machinery) accompanying the Direct Drive Robot includes the following language:

Agilent Technologies hereby declares that the:

- Equipment – Direct Drive Robot
- Serial number – Shown on the equipment

is incomplete machinery, and must not be put into service until the machinery into which it is to be incorporated has been declared in conformity with the provisions of Machinery Directive 2006/42/EC. The equipment complies with all applicable Essential Health and Safety Requirements (EHSRs) except:

- 1.2.4.3 – Emergency stop
- 1.3.1 – Stability
- 1.3.7 – Moving parts
- 1.3.8 – Guards

See the *Direct Drive Robot Site Preparation and Safety Guide* for details. See Accessing product user documentation.

We undertake to transmit, via email, relevant information on the partly completed machinery in response to a reasoned request by national authorities.

Name and address of the person established in the Community authorized to compile the technical file or the relevant technical documents:

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